Claims

1. ~~Flat storage element for an X-ray image, with a large~~ number of storage particles (20) which may be placed by means of X-ray light in metastable excitation states that are convertible by irradiation with activating light into an unstable excitation state which is in turn decomposed with the radiation of fluorescent light, and with a transparent binding agent (22) by means of which the storage particles (20) are held together to form a storage layer (12), wherein the binding agent (22) and the storage particles (20) have substantially the same refractive index, characterised in that the storage particles (20) consist of a transparent salt material which comprises two salts chemically different but crystallising in the same crystal structure, wherein the salts form a mixed crystal.

2. Storage element according to claim 1, characterised in that the salts differ in their cations and/or anions.

3. Storage element according to claim 2, characterised in that the cations are halide ions.

4. Storage element according to one of claims 1 to 3, characterised in that the binding agent (22) is a transparent plastics material with a refractive index of between 1.4 and about 1.6.

5. Storage element according to one of claims 1 to 4, characterised in that the refractive index of the material of the storage particles (20) and/or the refractive index of the binding agent (22) is isotropic.

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6. Storage element according to one of claims 1 to 5, characterised by an anti-reflection coating (14) borne by the front surface of the storage layer (12).

7. Storage element according to one of claims 1 to 6, characterised in that the rear side of the storage layer (12) bears an absorbing layer (16) which absorbs the activating light.

8. Storage element according to one of claims 1 to 7, characterised in that on the rear side of the storage layer (12) a reflecting layer (16) is provided, which reflects the fluorescent light and is preferably connected firmly to the storage layer (12).

9. Storage element according to one of claims 1 to 8, characterised in that behind the storage layer (12) is arranged a protective layer (18) of material absorbing X-ray beams, in particular a metal layer consisting of a metal with high order number such as lead.

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10. Storage element according to claim 9, characterised in that the protective layer (18) is connected firmly to the storage layer (12), e.g. with the use of an adhesive layer (16) which preferably simultaneously assumes the function of the absorbing layer (16) according to claim 7.

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11. Storage element according to one of claims 1 to 10, characterised in that the storage layer (12) and/or the anti-reflection coating (14) and/or the absorbing

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layer (16) and/or the reflecting layer (16) and/or the protective layer (18) form a bendable layered structure.

12. Method for producing a storage element according to one of claims 1 to 11, characterised in that binding agent (22) is prepared in the liquid state and the storage particles (20) are dispersed in the liquid binding agent (22), and that the material obtained in this way is dispersed to form a thin film-type layer and the binding agent is then cured.

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13. Method according to claim 12, characterised in that the binding agent (22) is prepared in the highly liquid state, to which end it is diluted and/or heated.

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